

TRAFFIC SPEED REPORT No. 60

34

SEPT., 1956
No. 34

Joint
Highway
Research
Project

by
R.J. HENNING

PURDUE UNIVERSITY
LAFAYETTE INDIANA

TRAFFIC SPEED REPORT NO. 60

TO: K. B. Woods, Director
Joint Highway Research Project

September 26, 1956

FROM: Harold L. Michael, Assistant Director

File: 8-1-1
C-36-10

The attached traffic speed report #60 is a summary of the semi-annual speed studies that are conducted at six locations in the vicinity of Lafayette. The speed study and the report has been prepared by Mr. Robert Henning, a member of our staff.

Average speeds for passenger cars are almost the same in the report as they were during the previous study. The average speed of trucks, however, has increased from two to three miles per hour.

As has been customary, this report will be distributed to the Bureau of Public Roads and Indiana State Police.

Respectfully submitted,

Harold L. Michael

Harold L. Michael, Assistant Director
Joint Highway Research Project

HLM:hb

cc: D. S. Berry
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TRAFFIC SPEED REPORT NO. 60

by

Robert J. Henning

Research Assistant

Joint Highway Research Project

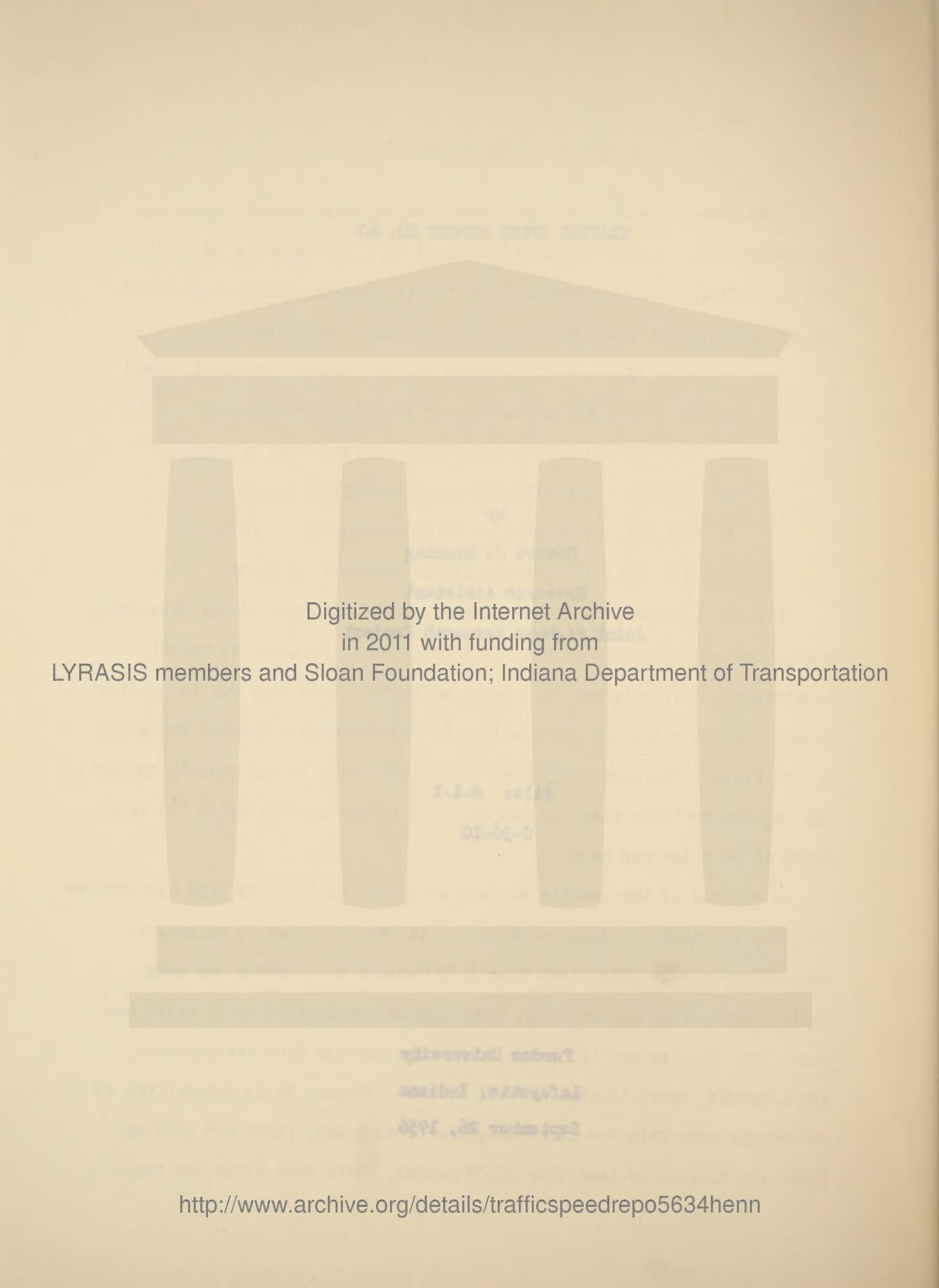
File: 8-1-1

C-36-10

Purdue University

Lafayette, Indiana

September 26, 1956



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TRAFFIC SPEED REPORT NO. 60

This report covers spot speed observations made during August and September 1956. These data were collected by K. R. Lauer, J. M. Pliego, and the writer. All observations are for free-moving vehicles on level, tangent sections of rural highways. Locations observed were:

1. U.S. 52 ~ 1.0 miles South of Jct. of S.R. 28 (Dual lanes)
2. U.S. 52 - 1.0 miles West of Klondike (Dual lands)
3. U.S. 52 - 2.2 miles Northwest of Templeton (2 lane)
4. U.S. 41 - 1.0 miles North of Boswell (2 lane)
5. U.S. 31 - 7.2 miles North of Perrysburg (2 lane)
6. S.R. 25 - 1.0 miles South of Americus (2 lane)

Because the Purdue speed indicator was out of order during this study, a radar meter was borrowed from Mr. R. G. Groves, Engineer of Traffic Regulations, State Highway Department of Indiana, and used for the entire study. Before using the radar meter, it was thoroughly checked for accuracy in the field. The speed meter was calibrated until it was clearly indicated that speeds could be observed and adjusted to correct speeds in the range of 20 to 80 miles per hour.

A summary of the results of this study, as well as the last six studies, is given in Table I. Indiana state law limits the speed of passenger cars and trucks weighing less than 5,000 pounds to 65 miles per hour, while trucks weighing more than 5,000 pounds are limited to 45 miles per hour. For this reason the truck speeds are divided into three groups, light trucks, heavy trucks, and all trucks. Because it is impractical to accurately ascertain the exact weight of each truck, panel and pick-up types are classed as less than 5,000 pounds, while dual tired and semi-

trailer types are classed as weighing over 5,000 pounds.

In order to facilitate comparison between the present and the last previous observation at a given location, the results are presented in tabular form in Tables II through VII. All speed observations were taken at the same locations for this study as for the last.

With the exception of light trucks, the average speeds of all types of vehicles changed only slightly since the last study. Indiana passenger cars increased their average speed only 0.1 mph. on two-lane highways, 54.9 mph. to 55.0 mph., while on four-lane highways it decreased from 58.1 mph. to 57.4 mph. Out-of-state passenger cars decreased their average speeds on both types of highways by dropping from 58.0 mph. to 56.3 mph., and from 60.1 mph. to 58.8 mph. on two-lane and four-lane highways respectively.

Light trucks showed larger changes in their average speeds than other types of vehicles, over the study made in February 1956. They increased from 47.1 mph. to 50.6 mph. on two-lane highways, and from 47.8 mph. to 49.6 mph of four-lane highways. An increase was also noted for heavy trucks. On two-lane highways an increase from 44.4 mph to 46.6 mph, and on four-lane highways from 45.8 mph. to 47.4 mph.

The change in speed of all passenger cars on all highways amounted to a decrease of only 0.4 mph. from 56.8 mph. to 56.4 mph. An increase of 2.0 mph. was recorded for all trucks on all highways. The average speed of all trucks was found to be 46.9 mph. during this study.

TABLE I
SUMMARY OF SPOT SPEED OBSERVATIONS ON INDIANA HIGHWAYS
(Free-Moving Vehicles on Level, Tangent Sections)

		Passenger Cars				Trucks		
		Ind. Mean	Non-Ind. Mean	All Mean	All 85-Per.	Light Mean	Heavy Mean	All Mean
Two-Lane Highways	Dec. '53	51.5	55.9	53.2	61.6	44.0	42.2	43.0
	Apr. '54	53.6	56.5	54.8	63.6	44.8	42.9	43.7
Highways	Aug. '54	55.0	56.8	55.7	63.8	49.9	46.0	47.1
	Dec. '54	52.0	54.1	52.8	58.8	48.2	44.4	45.2
	July '55	53.8	55.7	54.5	64.8	46.2	45.5	45.6
	Feb. '56	54.9	58.0	55.9	63.2	47.1	43.2	44.4
	Aug. '56	55.0	56.3	55.5	63.4	50.6	45.5	46.6
Four-Lane Highways	Dec. '53	52.1	55.8	53.4	61.5	44.7	40.1	41.6
	Apr. '54	56.4	58.8	57.3	66.0	43.7	41.7	42.2
	Aug. '54	55.5	58.2	56.6	65.0	52.1	45.6	47.1
	Dec. '54	54.2	55.7	54.7	60.4	47.1	43.6	44.3
	July '55	54.5	56.6	55.2	63.7	47.5	43.9	44.8
	Feb. '56	58.1	60.1	58.7	65.7	47.8	45.2	45.8
	Aug. '56	57.4	58.8	58.2	66.8	49.6	46.0	47.4
All Highways	Dec. '53	51.7	55.9	53.3	61.6	44.2	41.4	42.6
	Apr. '54	54.6	57.3	55.6	64.4	44.5	42.5	43.3
	Aug. '54	55.1	57.3	56.0	64.2	50.5	45.9	47.1
	Dec. '54	52.7	54.5	53.4	59.3	47.8	44.0	44.8
	July '55	54.1	56.6	55.2	64.3	46.9	44.7	45.2
	Feb. '56	56.0	58.6	56.8	63.8	47.3	44.0	44.9
	Aug. '56	55.7	57.3	56.4	64.5	50.2	45.6	46.9

APPENDIX

Truck types are classified as follows:

- 2P 2 Axle panel or pickup
- 2S 2 Axle, 4 tired other than 2P
- 2D 2 Axle, 6 tired
- 3 3 Axle Single Unit
- 2S1 2 Axle tractor-truck with 1 axle semi-trailer
- 2S2 2 Axle tractor-truck with 2 axle semi-trailer
- 2-2 2 Axle tractor-truck pulling 2 axle full trailer
- 2S1-2 2 Axle tractor-truck with 1 axle semi-trailer and a 2 axle full trailer
- 3-3 3 Axle truck pulling 3 axle full trailer
- 3S2-2 3 Axle tractor-truck with a 2 axle semi-trailer and a 2 axle full trailer

Body type code:

- CO Covered, box, closed, delivery, panel, screen, top, van.
- PL Platform, flat bed.
- ST Stake, crate, rack
- TA Tank
- OP Open, pickup
- REF Refrigerator
- AC Autocarrier
- DP Dump
- LI Lime spreader
- BL Not reportable in any of the above classifications.

TABLE II - SPEED DATA

station U.S. 52 1.0 miles South of South Jct. S.R. 28

S.B. Bit. Corrs. (Divided James)

This Constitution

Date August 24, 1956
Time 12:10 PM - 2:25

24. N.R. P.C.C., S.B. Bit. Conc. (Divided lanes) Weather clear
Cloudy Observation (Sundown) No. 50

Last previous observation (specie report no. 28)
Date August 24, 1956
Time 12:10 PM - 2:25 PM
Date February 13, 1956
Time 10:45 AM - 3:45 PM

Date February 13, 1956
Time 10:45 AM - 3:45 PM

TABLE III SPED DATA

station U.S. 52 1.0 Miles West of Klondike

Surface 241 Portland Cement Concrete (Divided Lanes)

This observation

Date August 20, 1956

Time 1:45 PM - 4:15 PM

Last Previous Observation (Speed Report No. 58)
 Date February 23 and 29, 1956
 Time 8:30 - 10:20 AM; 1:40-3:30 PM

weather clear

Passenger Cars

Boards	All	Indiana			Non-Indiana			All			Business		
		Present	Less than 5000 pounds	5000 or more	Present	Less than 5000 pounds	5000 or more	Present	Less than 5000 pounds	5000 or more	Present	Less than 5000 pounds	5000 or more
No. of Vehicles b9	352	394	278	190	74	204	151	108	41.1	46.7	46.1	67.8	61.3
Avg. speed (m.p.h.)	60.4	57.1	59.9	56.4	62.5	57.8	46.7	47.5	60.6	33.3	38.0	1	0
All vehicles	92.6	81.0	92.1	76.8	94.6	84.8	39.1	25.9	45.5	33.3	37.3	22.7	0
Passenger cars	77.3	68.8	74.3	65.8	86.5	71.6	7.9	6.5	18.2	21.2	5.1	0	-
Passenger vans	63.6	45.2	60.4	43.2	75.7	47.1	3.3	2.3	12.1	9.1	0.8	0	-
Passenger busses	32.4	13.3	30.2	12.6	40.5	23.5	1.3	1.8	3.0	6.1	0.9	0	-
Passenger trucks	7.4	3.8	6.1	1.6	12.2	5.9	0	0.9	0	3.0	0	0	-
Passenger vans	0.9	0.5	0.4	-	2.7	1.0	0	-	0	-	0	0	-
Passenger busses	189	201	149	83	40	113	65	51	12	11	53	40	0
Avg. speed (m.p.h.)	58.9	55.9	53.5	54.6	60.4	56.3	46.9	44.5	43.9	45.4	46.5	44.2	-
Passenger vans	74	67	67	71	78	71	-	-	68	54	65	52	-
Passenger trucks	-	-	-	-	-	-	-	-	2P CC	2D CC	2D ST	2D ST	-
Passenger busses	36	35	35	37	-	-	-	-	34	33	24	35	-
Passenger vans	-	-	-	-	Wisc.	-	-	-	2P CO	2D CO	2D	3 BL	-
Passenger trucks	No. 95 Yerkes 58	163	193	129	107	34	86	57	21	22	65	35	1
Passenger busses	No. 62.2	59.5	61.5	57.8	65.1	59.3	46.6	43.9	45.9	49.5	46.2	48.3	38.0
Passenger vans	No. 78	-	78	72	75	76	-	-	60	74	54	53	38
Passenger trucks	No. 34	35	47	36	III. Ohio	-	-	-	2P OP	2P OP	3S2 2D	2D ST/2S20	-
Passenger busses	No. 34	-	-	-	Ohio	-	-	-	29	39	22	40	33
Passenger vans	No. 34	-	-	-	-	-	-	-	2P ST	2P OP	2D DP	2D CO	-

TABLE IV SPED DATA

Station U.S. 52 2.0 Miles North of Templeton

Surface 22' Rock Asphalt

This Observation

Date August 21, 1956

Time 9:30 AM - 11:45 AM

Last Previous Observation (Speed Report No. 58)

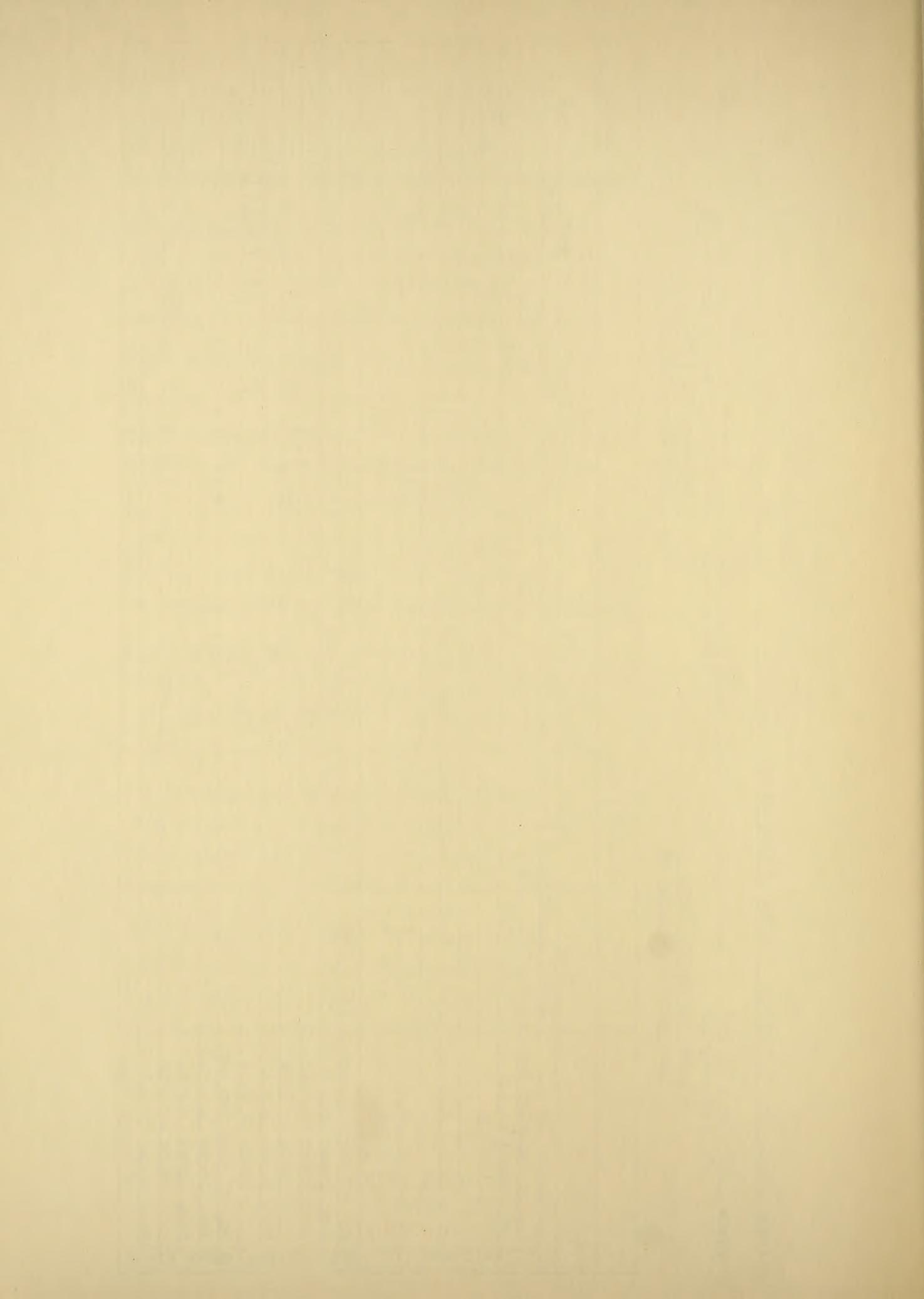
Date February 20, 1956

Time 9:00 AM - 12:10 PM

Weather clear

PASSENGER CARS

OBSERVATION	PASSENGER CARS						TRUCKS						BUSSES						Present						
	ALL		Indiana		Non-Indiana		ALL		Less than 5000 pounds		5000 pounds or more		ALL		Present		Last		Present		Last		Present		
No. of Vehicles Obs.	362	424	176	177	186	247	139	75	27	11	112	64	1	0											
Ave. Speed (m.p.h.)	56.8	57.7	55.7	56.7	57.8	57.6	44.1	47.0	47.7	56.0	43.3	45.4	47.0	-											
Max. Speed (m.p.h.)	—	—	—	—	—	—	—	43.2	42.7	66.7	—	37.5	32.3	100.0	-										
Min. Speed (m.p.h.)	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	45 m.p.h.	
Max. Speed (m.p.h.)	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	
Min. Speed (m.p.h.)	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	55 m.p.h.	
Excelsior	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	60 m.p.h.	
All Vehicles	150	184	85	97	65	87	38	42	17	7	71	35	1	—											
No. of Vehicles Obs.	56.2	56.6	55.7	56.5	56.3	56.6	43.2	45.6	46.6	55.6	42.3	43.6	47.0	-											
Ave. Speed (m.p.h.)	—	—	73	78	68	72	—	—	63	70	53	53	47	-											
Max. Speed (m.p.h.)	—	—	32	40	35	38	—	—	26	52	35	38	47	-											
State or Type	—	—	—	—	III.	III.	—	—	2P	2P CO	2D	2D BL	—												
Min. Speed (m.p.h.)	—	—	—	—	III.	III.	—	—	2P	2P OP	2S1	2D & 2S2	—												
State or Type	—	—	—	—	III.	III.	—	—	2P	2P CO	2D	2D BL	—												
No. of Vehicles Obs.	212	240	91	80	121	160	51	33	10	4	41	29	0	-											
Ave. Speed (m.p.h.)	57.3	57.3	55.8	56.9	53.4	58.1	45.9	48.3	49.7	56.3	44.9	47.7	-												
Max. Speed (m.p.h.)	—	—	72	73	69	80	—	—	65	63	51	64	-												
Min. Speed (m.p.h.)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
State or Type	—	—	31	38	44	40	—	—	34	53	35	40	—												
SOUTH BOUND	—	—	—	—	III.	III.	—	—	2P	2P CO	2D	2D BL	—												
NORTH BOUND	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MIN. SPEED	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
STATE OR TYPE	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



station U.S. 41 1.0 Miles North of Boswell

TABLE V
STREED DATA

Surface 22.5' Portland Cement Concrete
This Observation Date August 23, 1956
Time 2:00 - 4:30 PM

Weather clear
Last Previous Observation (Speed Report No. 58)
Date February 10, 1956
Time 10:30 AM - 2:30 PM

PASSENGER CARS

OBSERVATION	TRUCKS												BUSES			
	ALL				Indiana				Non-Indiana				ALL		All	
	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of Vehicles Obs.	360	395	176	193	184	202	140	105	59	20	81	85	0	0	1	1
Ave. Speed (m.p.h.)	53.0	54.4	56.7	53.8	59.4	54.9	45.0	45.6	45.0	48.2	45.1	44.9	-	-	42.0	-
Max. Speed (m.p.h.)	—	—	—	—	—	—	—	—	49.3	76.2	44.1	80.0	53.1	75.3	-	0
Min. Speed (m.p.h.)	45 m.p.h.	—	—	—	—	—	—	—	24.3	39.0	30.5	60.0	19.8	34.1	-	0
50 m.p.h.	86.9	75.2	80.1	72.5	93.5	77.7	77.7	70.5	7.1	14.3	11.9	25.0	3.7	11.8	-	0
55 m.p.h.	71.7	46.3	65.3	43.0	77.7	50.5	77.7	50.5	7.1	14.3	11.9	25.0	3.7	11.8	-	0
60 m.p.h.	43.9	23.3	43.7	22.8	53.3	24.9	0.7	0.7	1.7	5.0	0	0	1.2	-	0	0
65 m.p.h.	20.3	6.3	21.0	6.2	19.6	7.4	0	0	1.0	0	0	0	0	1.2	-	0
70 m.p.h.	1.9	3.0	1.7	4.1	2.2	2.0	0	0	0	0	0	0	0	0	-	0
75 m.p.h.	0.3	1.0	0	1.6	0.5	0.5	0	0	0	0	0	0	0	0	-	0
All Vehicles Obs.	142	213	75	97	67	116	63	45	27	9	36	36	-	-	1	1
Ave. Speed (m.p.h.)	57.7	52.9	56.7	52.2	58.9	53.6	45.7	43.6	45.3	47.9	44.6	42.5	-	-	42.0	-
Max. Speed (m.p.h.)	—	—	70	75	69	71	—	—	—	—	56	62	58	58	-	42
State or Type	—	—	—	—	III.	III.	—	—	—	—	2P	2P OP	2D	2D ST	—	—
Min. Speed (m.p.h.)	—	—	34	38	42	40	—	—	—	—	31	40	32	29	-	42
State or Type	—	—	—	—	III.	III.	—	—	—	—	2P	2P OP	2S2	2D DP	—	—
No. of Vehicles Obs.	218	182	101	96	117	86	77	60	32	11	45	49	-	-	0	0
Ave. Speed (m.p.h.)	58.3	56.0	56.7	55.4	60.0	56.7	45.0	47.0	44.4	48.5	45.4	46.7	-	-	-	-
Max. Speed (m.p.h.)	—	—	71	89	38	85	—	—	—	61	58	56	65	-	-	-
State or Type	—	—	—	—	III.	Tenn.	—	—	—	—	2P	2P OP	2D	2S2 CO	—	—
Min. Speed (m.p.h.)	—	—	34	34	36	40	—	—	—	25	39	29	36	-	-	-
State or Type	—	—	—	—	III.	III.	—	—	—	—	2P	2P CO	3S2	2D ST	—	—

TABLE I
SPREAD DATA

Station U.S. 31 7.2 Miles. North of Perrysburg

Surface 22.5' Portland Cement Concrete, Resurfaced with Bituminous Material
 This Observation Last Previous Observation (Speed Report No. 58)
 Date September 4, 1956 Date February 15, 1956
 Time 10:30 AM - 1:45 PM Time 11:00 AM - 3:00 PM

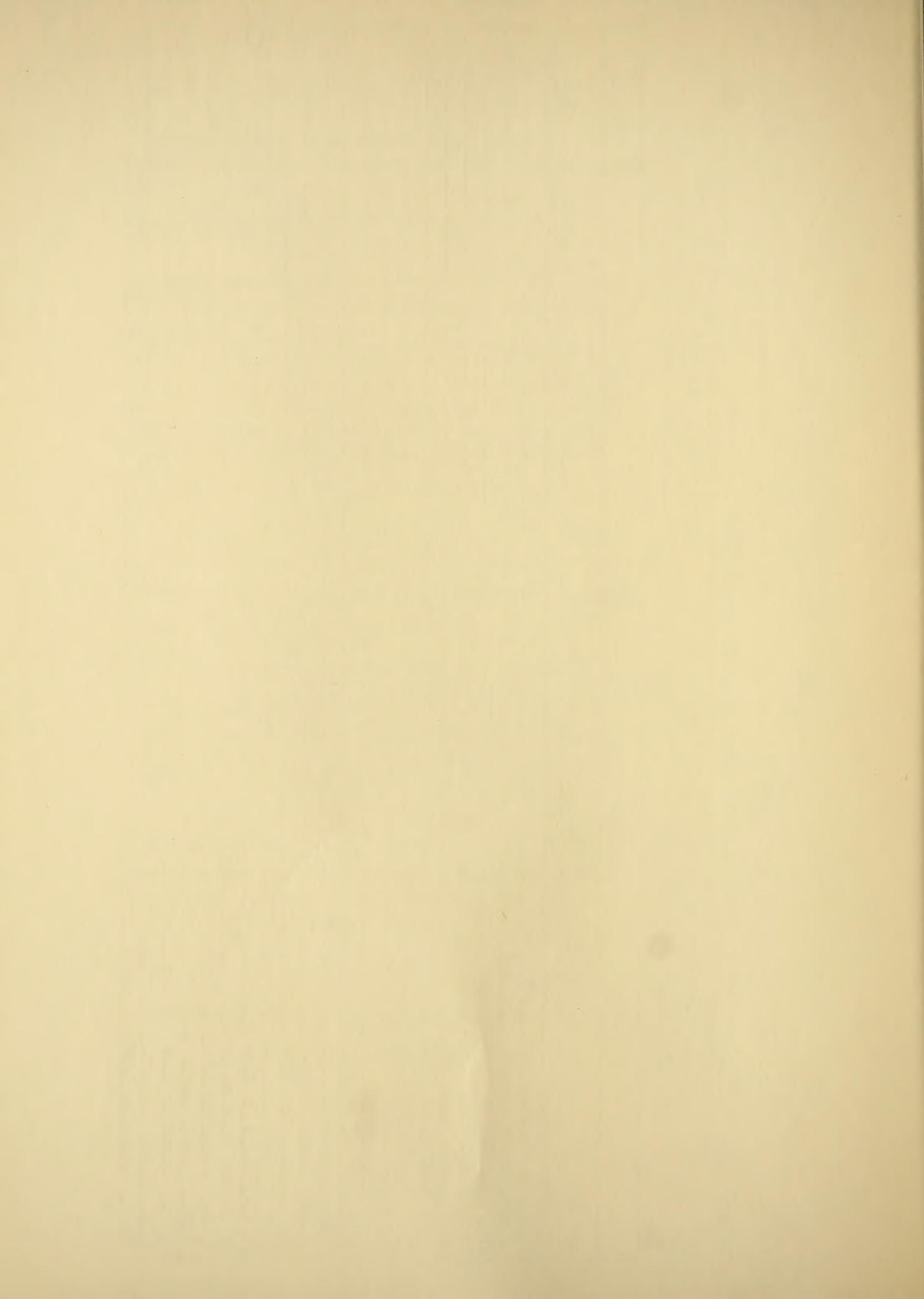


TABLE VII

Station S.B. 25 1.0 Miles South of Americas

221 Bituminous Resurfaced Concrete

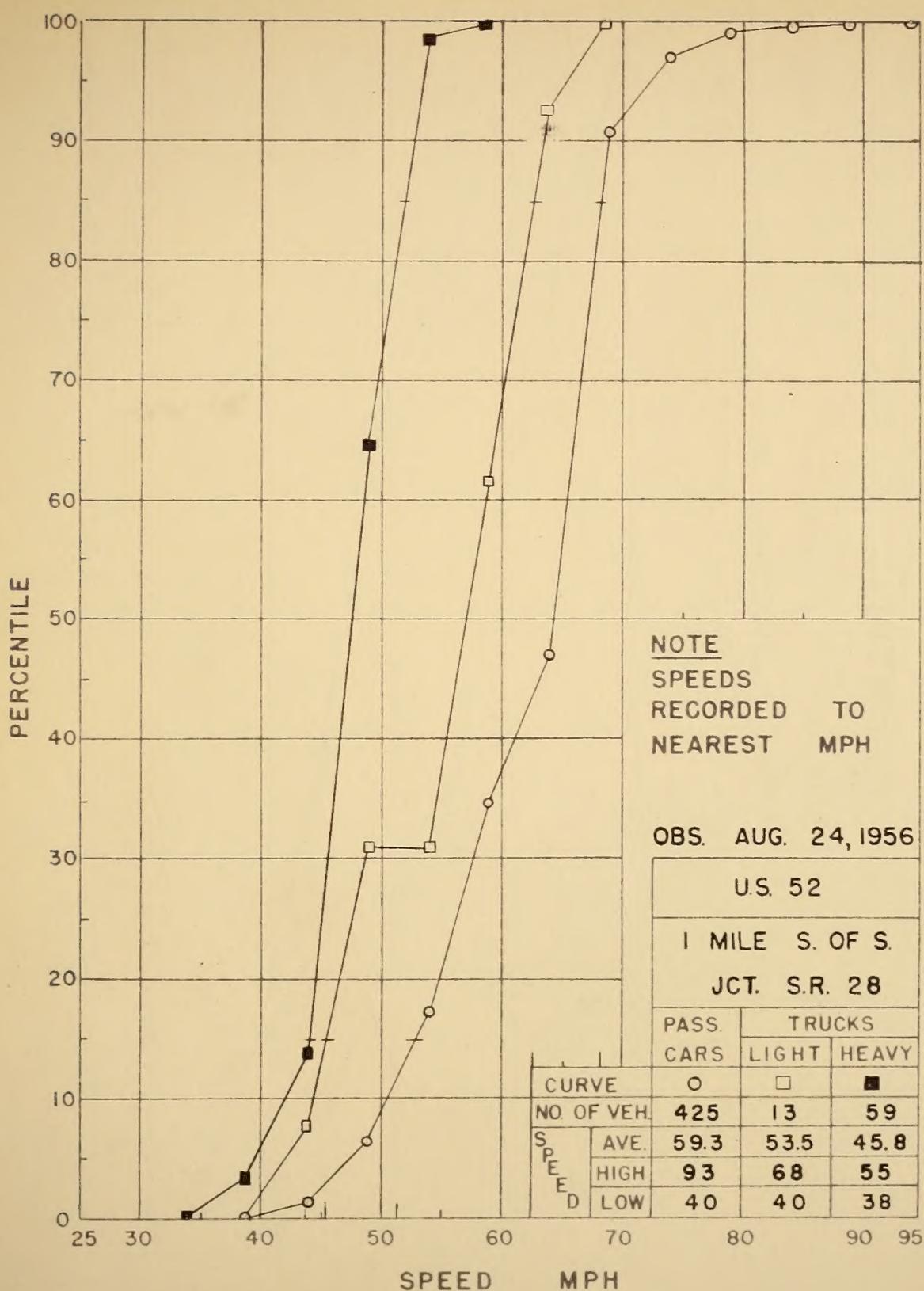
This observation

Date August 23, 1956
Time 9:00 AM - 11:30

weather clear

Last Previous Observation (Speed Report no. 58)
 Weather clear
 Date February 16 and 21, 1956
 Time 1:30 - 11:00 AM and 8:30-9:15 AM

Passenger Cars										Trucks										Busses									
All					Indiana					Non-Indiana					All					5,000 pounds or more									
Registration		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present								
No. of Vehicles	lbs.	359	406	321	332	38	74	146	95	40	28	106	67	0	0	1	1	54.0	—	—	—								
Ave. Speed (m.p.h.)		55.0	56.0	55.0	56.1	55.3	55.7	44.8	48.1	50.8	51.6	41.8	46.6	—	—	—	—	54.0	—	—	—								
Max. Speed (m.p.h.)		—	—	—	—	—	—	38.4	66.3	77.5	78.6	23.6	61.2	—	—	—	—	100.0	—	—	—								
Min. Speed (m.p.h.)		78.3	83.5	78.2	84.6	84.2	78.4	21.2	36.3	57.5	60.7	7.5	26.9	—	—	—	—	100.0	—	—	—								
Excelsior		51.3	59.8	50.8	60.2	55.3	58.1	8.2	16.8	27.5	39.3	0.9	7.5	—	—	—	—	0	—	—	—								
Max. Speed (m.p.h.)		30.9	34.0	32.1	34.0	21.1	33.8	4.8	8.4	15.0	21.4	0.9	3.0	—	—	—	—	0	—	—	—								
Min. Speed (m.p.h.)		9.5	12.1	8.7	12.0	15.8	12.2	2.1	3.2	7.5	10.7	0	0	—	—	—	—	0	—	—	—								
Excelsior		1.9	4.7	2.2	4.8	0	4.1	1.4	0	5.0	0	0	0	0	—	—	—	—	0	—	—								
Max. Speed (m.p.h.)		0.6	1.0	0.6	0.9	0	1.4	0	0	0	0	0	0	0	—	—	—	—	0	—	—								
No. of Vehicles	lbs.	192	213	176	173	16	40	60	50	15	14	45	36	—	—	—	—	—	—	—	—								
Ave. Speed (m.p.h.)		55.7	57.2	55.9	57.4	53.8	56.4	43.1	48.4	49.4	51.3	41.0	47.2	—	—	—	—	—	—	—	—								
Max. Speed (m.p.h.)		—	—	80	77	65	74	—	—	70	66	61	64	—	—	—	—	—	—	—	—								
State or Type		—	—	—	—	III.	Mich.	—	—	2P OP	2P OP	2D ST	2D CO	—	—	—	—	—	—	—	—								
V.I.C. Speed (m.p.h.)		—	—	22	40	43	39	—	—	35	30	27	38	—	—	—	—	—	—	—	—								
State or Type		—	—	—	—	Penn.	Mich.	—	—	2P OP	2P OP	2S1 CO	2D ST	—	—	—	—	—	—	—	—								
No. of Vehicles	lbs.	167	193	145	159	22	34	86	45	25	14	61	31	—	—	—	—	—	—	—	—								
Ave. Speed (m.p.h.)		54.2	54.8	53.9	54.3	56.4	54.9	45.8	47.8	51.6	51.9	42.4	45.9	—	—	—	—	54.0	—	—	—								
Max. Speed (m.p.h.)		—	—	75	78	68	78	—	—	70	68	53	58	—	—	—	—	54.0	—	—	—								
State or Type		—	—	—	—	—	Ohio	Mich.	—	—	2P OP	2P OP	2D CO	2SCO	—	—	—	—	54.0	—	—								
Min. Speed (m.p.h.)		—	—	34	27	44	41	—	—	36	41	26	31	—	—	—	—	54.0	—	—	—								
State or Type		—	—	—	—	—	Ohio	III.	—	—	2P OP	2S ST	2D DP	2S1 CO	—	—	—	—	54.0	—	—	—							



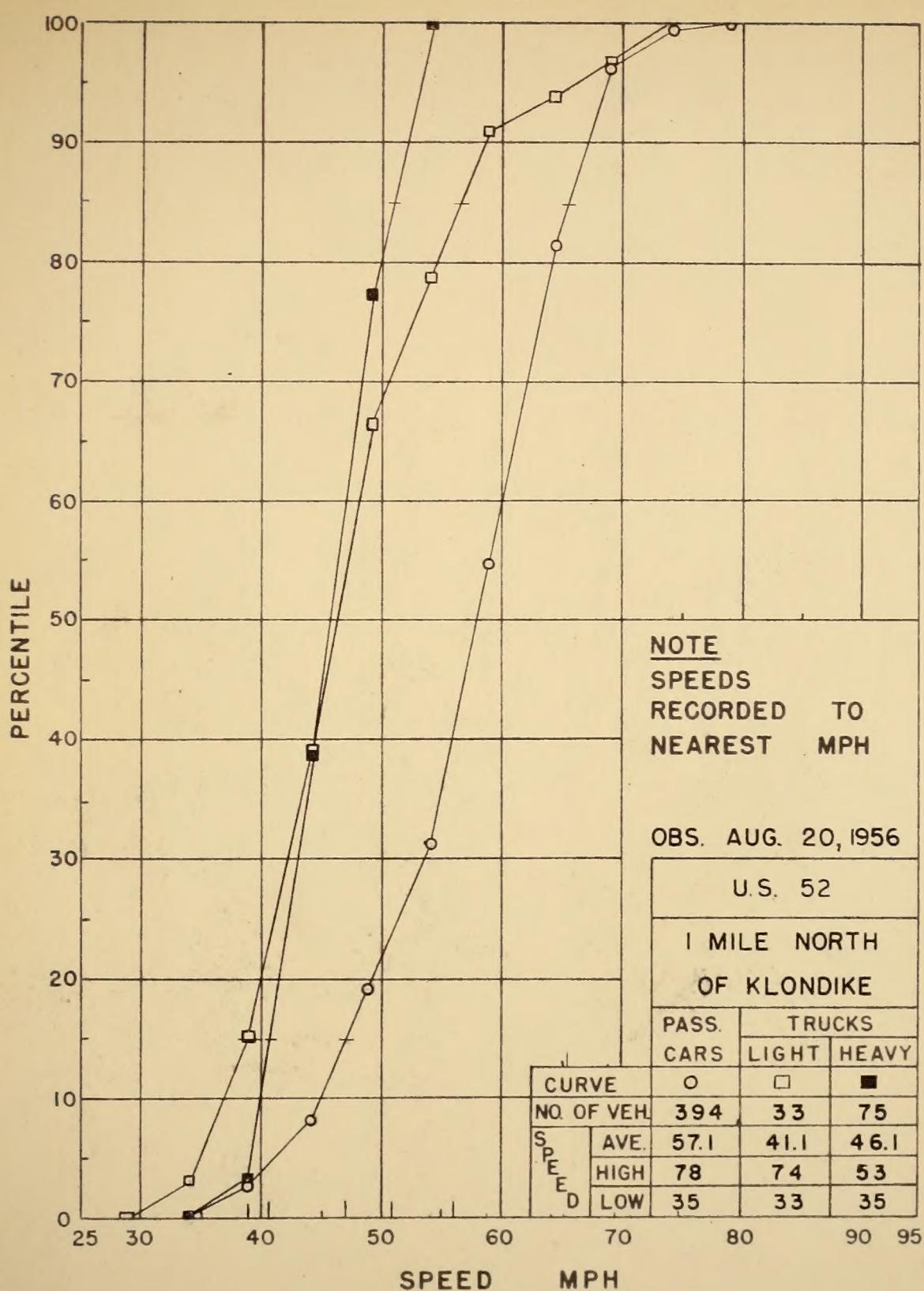
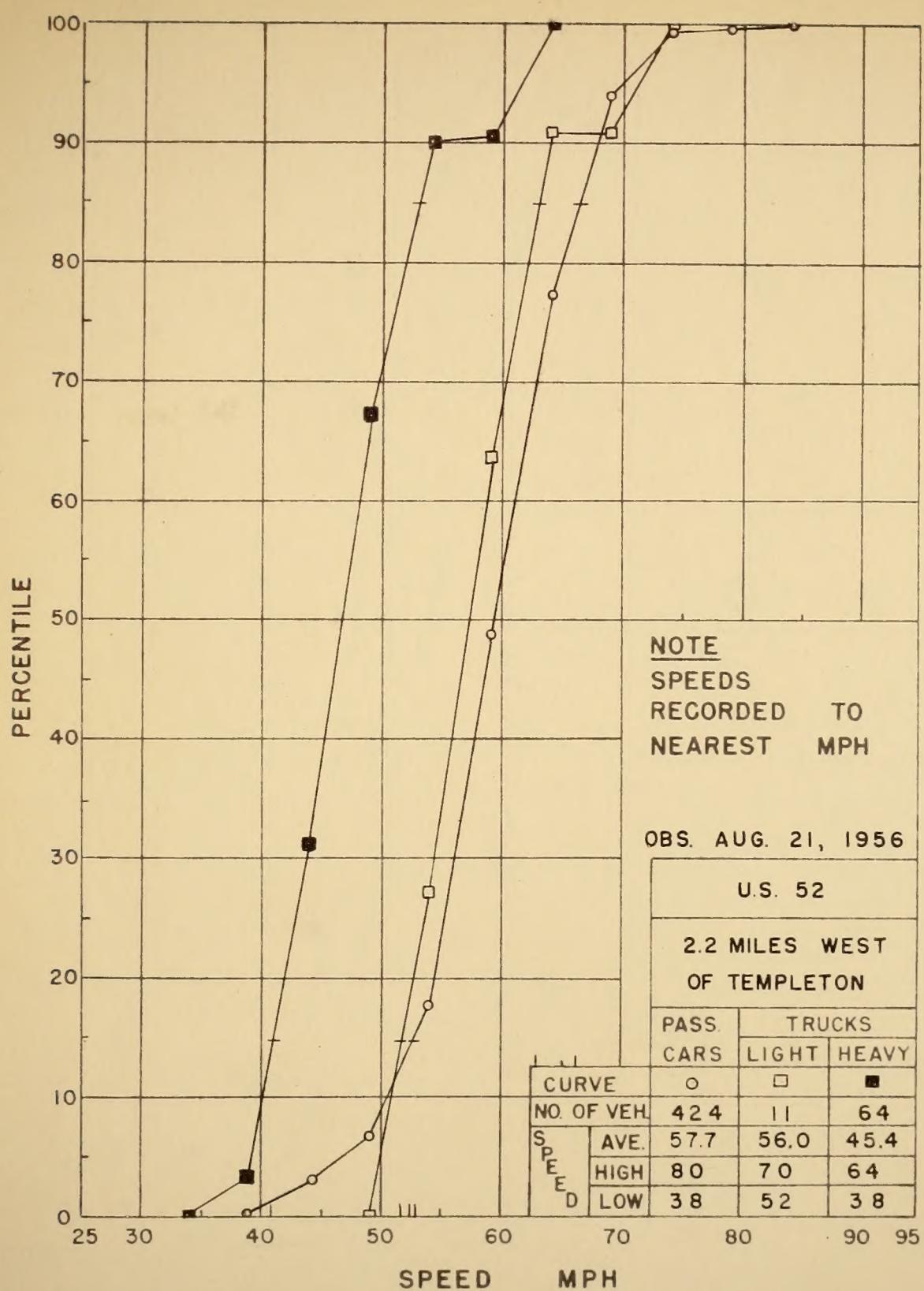


FIGURE 2



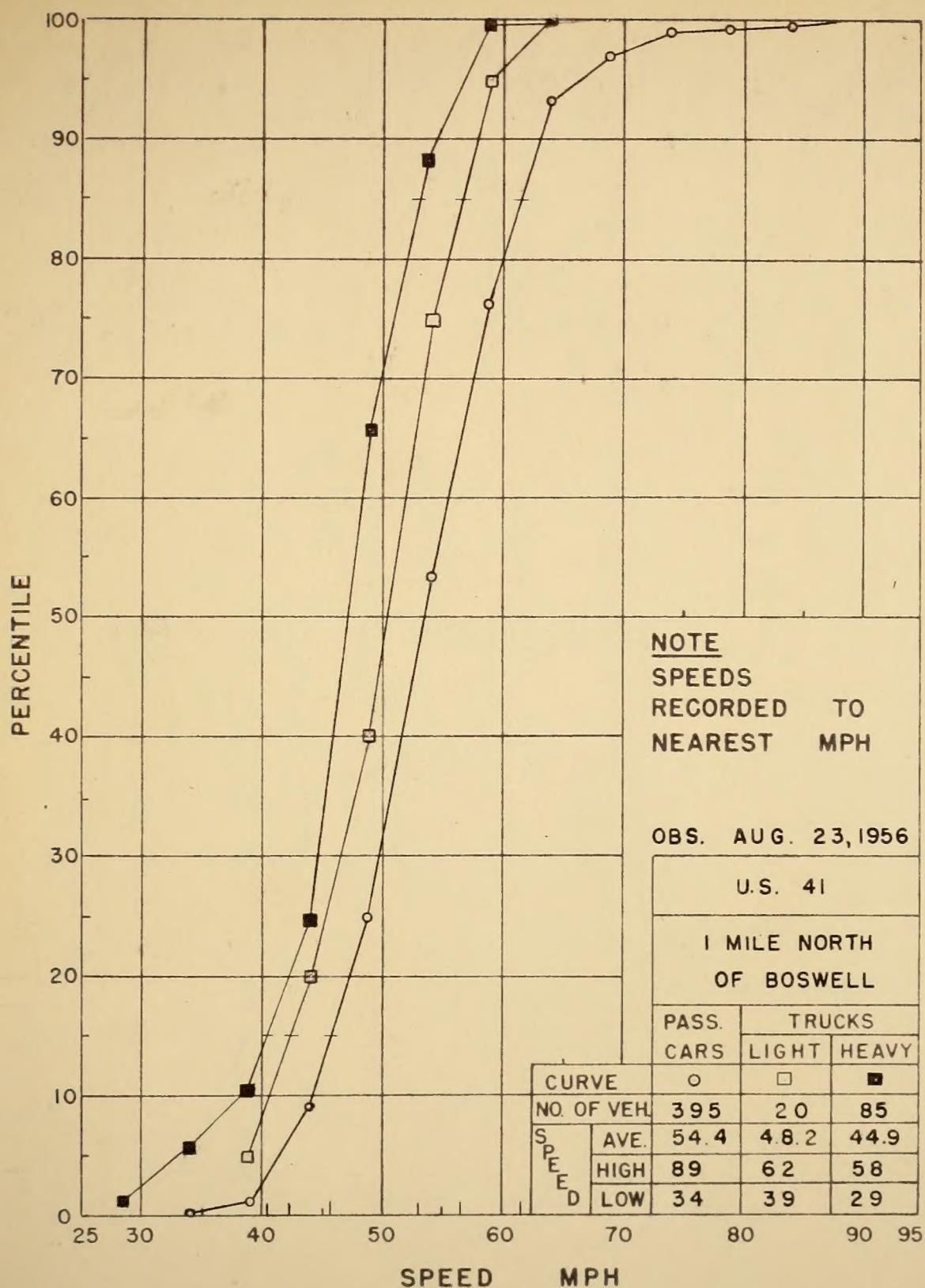


FIGURE 4

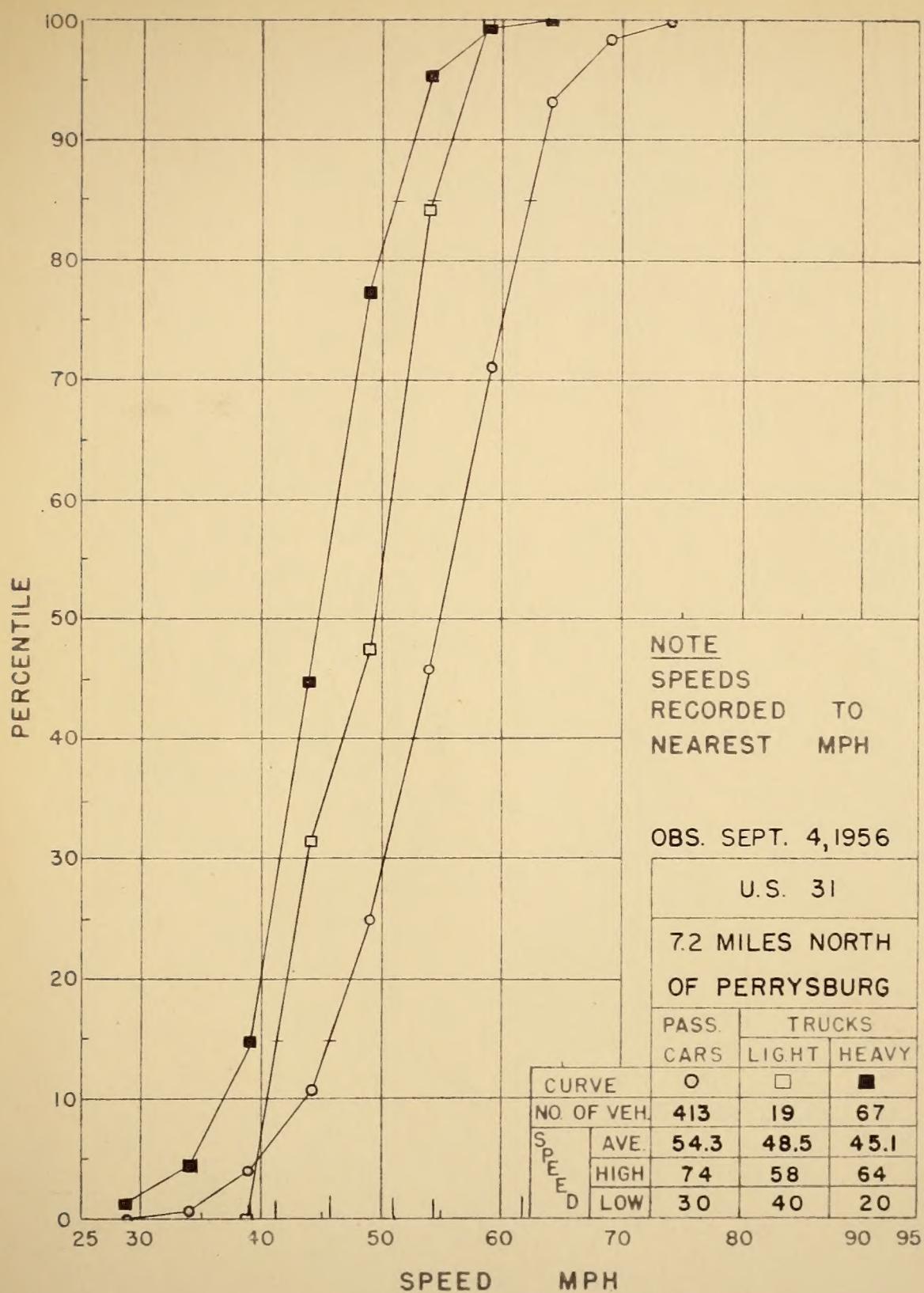


FIGURE 5

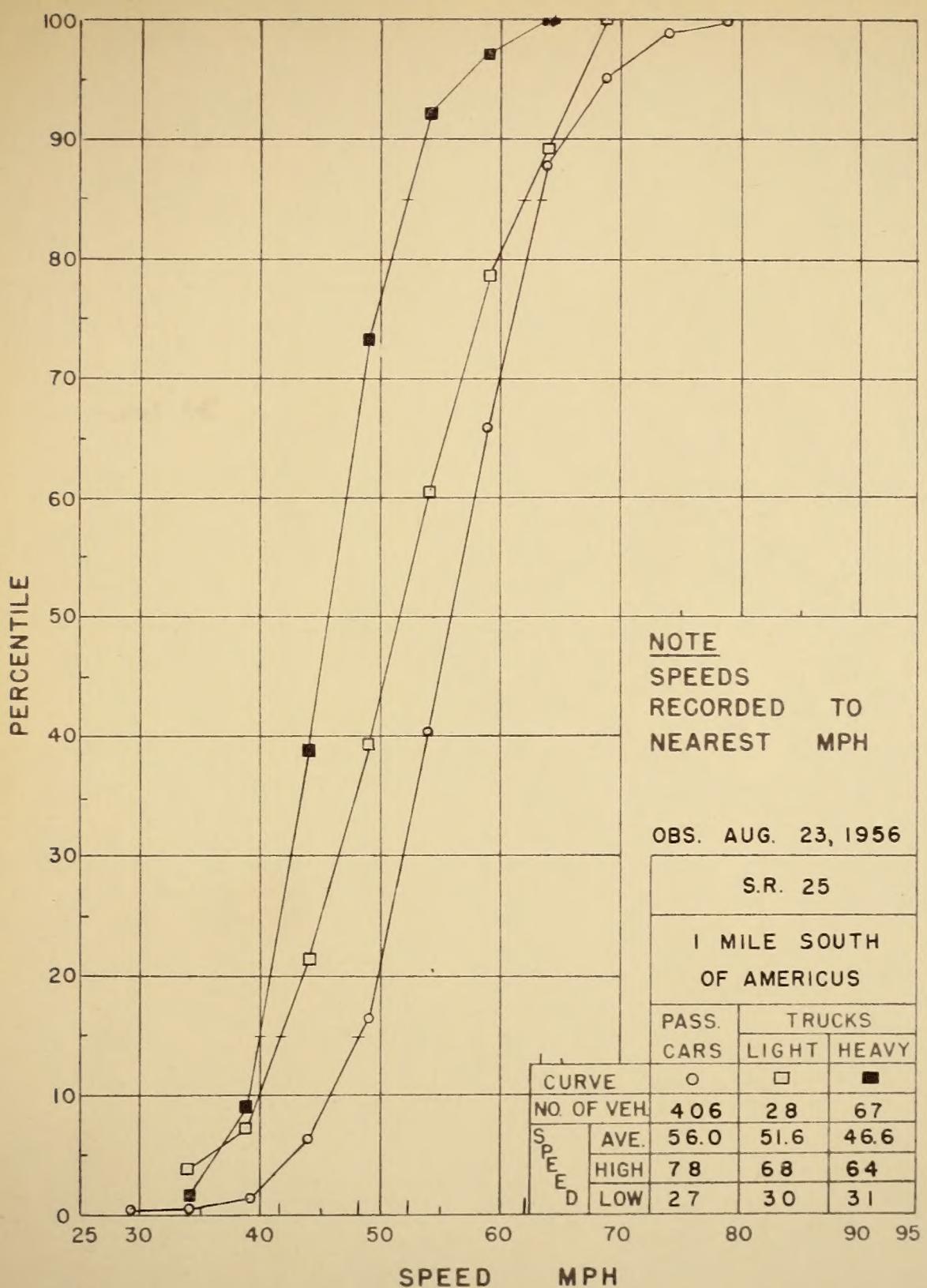


FIGURE 6

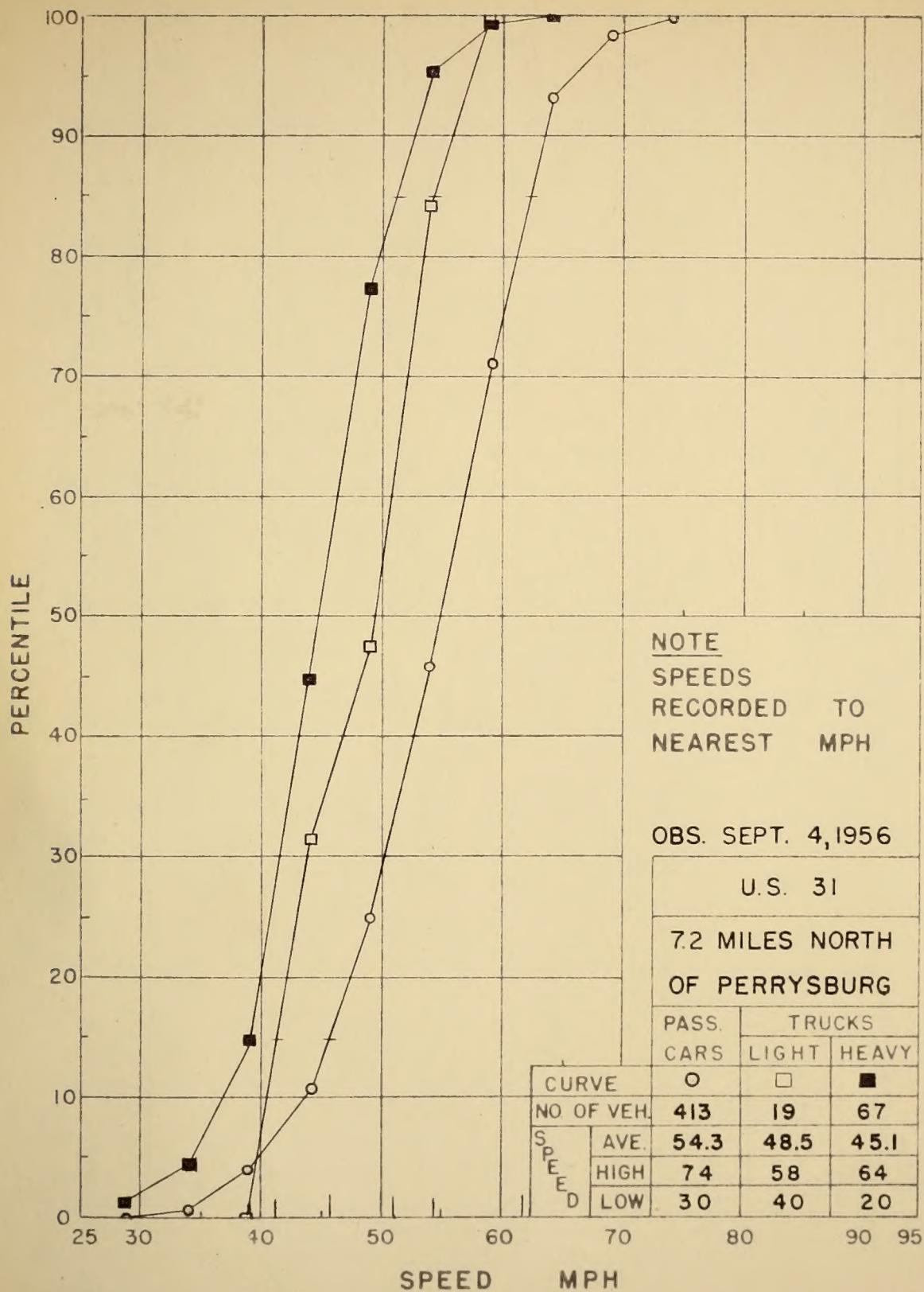


FIGURE 5

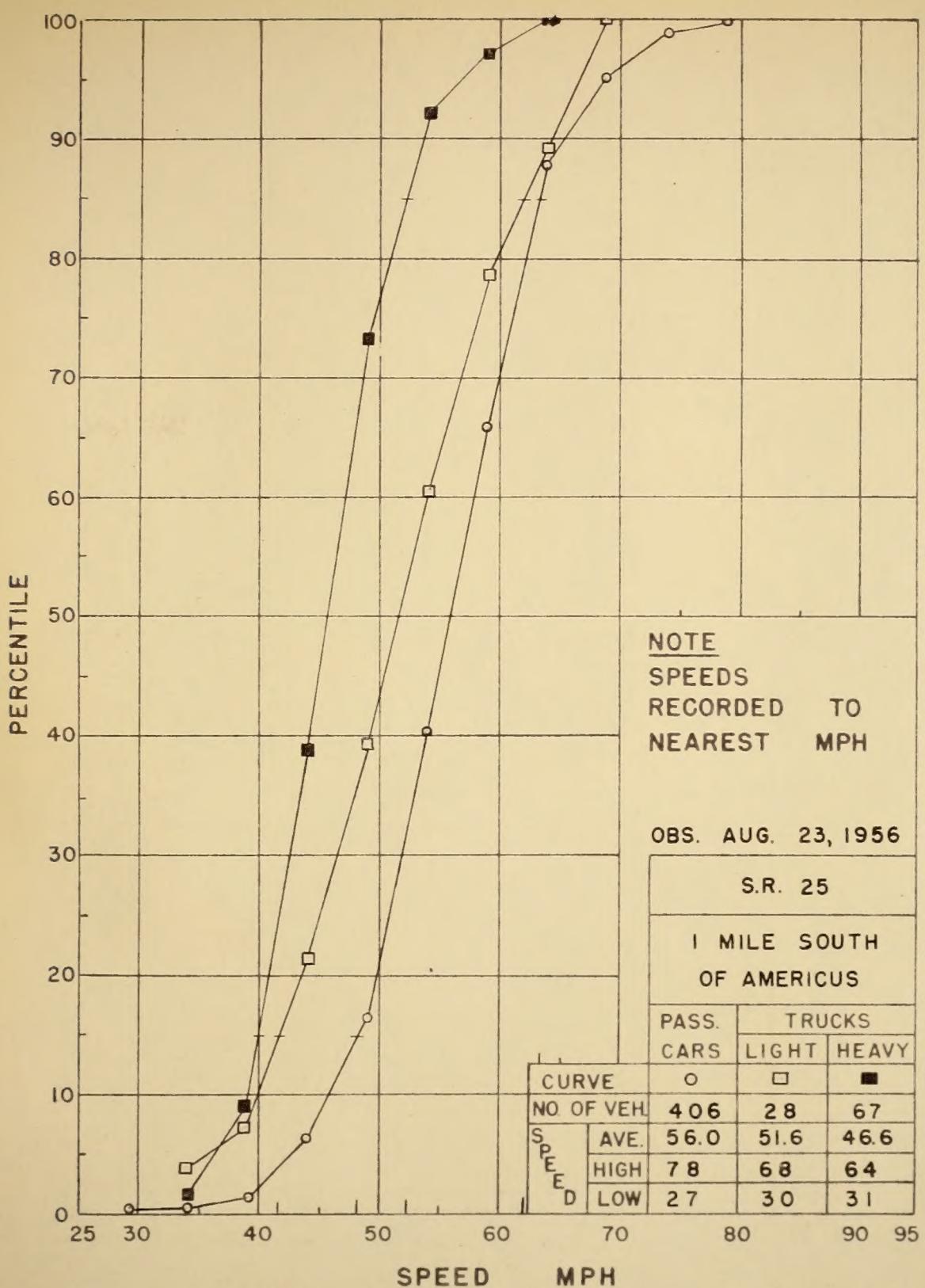


FIGURE 6

